Washington State Transportation Commission

Statewide Rail Capacity and Needs Study

Addendum to

Interim Report #1

prepared for

Washington State Transportation Commission

by

Cambridge Systematics, Inc.

with

Berk & Associates, Inc.
Global Insight, Inc.
HDR, Inc.
Starboard Alliance Company
Transit Safety Management
Willard F. Keeney & Associates

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Addendum to Interim Report #1

Purpose

The purpose of this addendum is to provide the comments received on Interim Report #1 following its release, and to provide the responses from the Cambridge Systematics team to those comments. The comments are presented in the order in which they appear in the Interim Report, grouped according to the following chapters:

- Executive Summary;
- 2.0 Overview of the Washington Rail System: Network, Users, and Carriers;
- 3.0 Findings and Conclusions;
- 4.0 Building Policy Options;
- Appendix: A Closer Look at Washington State Rail Users.

No comments were received on Chapter 1.0: Introduction.

Comments to Executive Summary

Comment 1. Page ES-2, 2nd full paragraph: BNSF and UP business model has changed….. summarize impacts on low-volume shippers.

Response 1. Edits underlined: **Short line railroads in Washington State are struggling financially.** Not a problem unique to Washington State, short line railroads that have come to provide a critical service to more remote shippers on low density lines are finding it difficult to maintain service quality. They often suffer from deferred maintenance and low capital investment in infrastructure, and current Class I business models often make it difficult for the short lines to offer competitive rates. Class I railroads are encouraging consolidation of car-load traffic at centers on their main lines, at logistics parks, transload centers, and grain consolidation facilities (i.e., "hook and haul" operation). The Class I rail-roads continue to transfer low-density branch lines to short line railroads to pro-vide collection and distribution services to these centers, which has transferred risk to the short line operators. There are increasing calls for the State to step in and rescue these failing businesses to preserve service options for affected com-munities and shippers. The State needs a comprehensive strategy to determine if, when, and how it should intervene.

Comment 2. Page ES-7, Figure ES.2: Use different color scheme (red/green/ blue) as it indicates capacity, on prior map.

Response 2. All of the maps with the HDR logo have been reproduced in a format that is more easily readable. This is provided at the end of this addendum. Figure ES.2 was updated using a different color scheme.

Comment 3. Pages ES-9 and ES-10, 2nd paragraph and following two paragraphs: Replace "cover" with "exceed"; replace "are trying to" with "now"; replace "attempting to change" with "changing," replace "accommodate" with "adapt."

Response 3. Edits underlined: **The railroad industry is not keeping pace with demand.** Railroading is one of the most capital intensive industries in the U.S. Much of the capital investment is devoted to replacing "used up" capacity as rail traffic places enormous wear and tear on underlying infrastructure. Railroads also spend much of their capital budgets on power and other equipment. This does not leave much left over for adding new capacity. Capacity limitations and the recent surges in demand have allowed Class I railroads to increase their rates and profits and for the first time in many years, they are earning returns that exceed their cost of capital. But even in this situation, the Class I's are being very cautious in their investment strategies. Both the Burlington Northern Santa Fe (BNSF) and the Union Pacific (UPRR) have investment strategies that emphasize increasing velocity through the system by operations strategies first and infrastructure expansion last. They are also focusing much infrastructure investment on the highest density, most competitive, and most politically sensitive corridors (Pacific Southwest and the lines out of the coal fields of the Powder River Basin).

Class I railroads are attempting to change their business model. The railroads now emphasize long haul, hub-to-hub or point-to-point, service in high density corridors. This is the least operationally complex type of service, and it takes advantage of the low average cost of line-haul movements. The railroads are also changing operational practices to get more throughput from existing infrastructure. This has meant practices such as building longer trains, standardizing equipment with fewer car options, trying to get customers on industrial leads and spurs to make site improvements, and supporting transload centers and consolidation facilities. In some instances, these operational changes are working to improve productivity but in other cases they are creating new operational challenges (for example, longer trains that cannot access terminals and end up blocking mainlines and crossings). Railroads are also using pricing as a demand management tool to encourage traffic that is easiest to serve and most profitable, and to discourage traffic that is difficult to serve and least profitable.

Short line railroads will continue to play an important role serving carload traffic in Washington State, but some of the most financially tenuous lines will find it difficult to offer quality of service that is necessary to retain markets. For those short lines that can adapt to the new business models of the Class I's (consolidating traffic and delivering it to the Class I's as they wish to receive it), rates will be favorable and they will see an increasing share of carload traffic coming their way. But a number of short lines in the State are not able to offer service that can meet shipper transit time and cost needs. In some cases, the

shippers are already moving to alternative modes and their products are still competitive. In the agricultural markets of Eastern Washington State, it may as often be the smaller grain loading facilities that suffer if short lines fail.

Comment 4. Page ES-10, 3rd full paragraph: Are all limitations (to the passenger rail system) supply side? Industry growth assumption that demand is infinite, or close.

Response 4. The explanation is provided in the response to comment 32.

Comment 5. Page ES-11, 2nd paragraph: Add "Growth of mainline rail volumes is causing impacts on local communities along the rail system, and capital needs to mitigate impacts must be included in cost equation of pursuing container port growth."

Response 5. Edits underlined: **Addressing capacity issues alone may not be sufficient to ensure that the Washington State Rail system is responsive to the needs of traditional carload shippers and receivers within Washington State.** Given changing business models of the Class I railroads and their approaches to improving velocity through operations, the low density, small shipper markets in which many of Washington State's traditional rail users find themselves are likely to continue to see declines in service even if capacity in the system is increased. The railroads will continue to push customers to new operational practices, and in some cases, this may require that customers make site investments. In addition, growth of mainline rail volumes is causing impacts on local communities along the rail system, and the costs of capital needs to mitigate those impacts is a public policy concern. The State will need a clear policy on how best to address the needs of these shippers in the context of this changing business environment.

■ Comments to Chapter 2.0 Overview of the Washington Rail System: Network, Users, and Carriers

Comment 6. Page 2-1, 3rd paragraph: PCC doesn't have revenues > $40M in WA.

Response 6. Edits underlined: There are 23 freight railroads in Washington State. These include 2 large Class I railroads, 1 Class II regional railroad, and 17 Class III short line and specialized terminal and switching railroads.[1]

[1] Railroad classification is determined by the Surface Transportation Board. In 2004, a Class I railroad was defined as having $289.4 million or more in operating revenues. A Class II railroad, often referred to as a regional railroad, was defined as a non-Class I line-haul railroad operating 350 miles or more with operating revenues of at least $40 million. Class III railroads, or short lines, are the remaining non-Class I or II line-haul railroad. A switching or terminal railroad is a railroad engaged primarily in

(Footnote continued on next page...)

The two Class I railroads operating in the State are the Burlington Northern Santa Fe Railway (BNSF) and the Union Pacific Railroad (UPRR). The Class II regional railroad is the Montana Rail Link, which offers limited service in Washington State, reaching Spokane over trackage rights on the BNSF. The 16 active short lines and terminal/switching railroads in the State provide collector/distributor services for the larger railroads and local rail service to Washington State shippers and receivers. Table 2.1 lists the Washington State railroads, three of which are inactive.

(In addition, Table 2.1 is changed to move Palouse River & Coulee City RR from a Class II to a Class III railroad).

Comment 7. Page 2-13, 1st paragraph: Note UP's connection w/ CP for cross country east-west traffic.

Response 7. Edits underlined: UPRR's primary east-west corridor serving traffic in and out of Washington State is in Oregon, running between Hinkle and Portland on the south side of the Columbia River. This is a primary grain route from the Midwest to the Columbia River ports. The line crosses to the north side of the Columbia River at Vancouver, Washington State. North of Vancouver, Washington State, the UPRR has trackage rights over BNSF track to Tacoma and Seattle. This is UPRR's primary intermodal route connecting to the Ports of Seattle and Tacoma. However, capacity and operational issues on the shared track have made this a difficult corridor for the UPRR operations. The Hinkle to Spokane corridor provides a critical interchange with Canadian Pacific through Eastport Idaho, and UPRR has seen continuing growth in grain traffic along this route. UPRR also provides service to industrial and agricultural carload shippers in Eastern Washington State through the four low-density corridors listed in the table.

Comment 8. Page 2-21, 1st paragraph continuing from page 2-20: credit WPPA, etc. in footnote.

Response 8. Several data sources were used for these calculations. A stand-alone memo on references will be prepared.

Comment 9. Page 2-21, bottom of page: Add "8. Significant off line bottlenecks (e.g., grain ships – rain)."

Response 9. Edits underlined (made at bottom of page 2-25): In addition to system bottlenecks, there are also factors such as weather, accidents, and labor issues that can also result in delays.

Comment 10. Page 2-27, Figure 2.7 and Page 2-29, Figure 2.9: Need car numbers; add chart showing car numbers.

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switching and/or terminal services for other railroads (i.e., they are not typically involved in line-haul moves between two geographical locations).

Response 10. Global Insight is preparing information, but not in time for this addendum.

Comment 11. Page 2-29, Figure 2.9: Using tonnage as the unit of measure will confuse many readers – numbers of trains or numbers of cars/containers says more to us about what kind of usage the system is getting – it doesn't help us understand capacity challenges. Where we have to use tonnage, there ought to be some footnote or other explanation that highlights that tonnage doesn't convert directly to cars – intermodal cars are a lot lighter than coal and grain cars.

Response 11. Same as response to Comment 10.

Comment 12. Page 2-35, last paragraph and page 2-37, last paragraph: (The merchandise trade and retail sector is) not rail dependent, you need to separate logistics numbers from all trade and retail numbers.

Response 12. Edits underlined (made at first numbered item on page 2-34): Merchandise trade and retail industries, which include wholesale trade and transportation and warehousing sectors. This sector's use of the rail system in Washington State is primarily associated with moving consumer goods from overseas locations through Washington ports to and from interior U.S. locations (largely via intermodal rail). The primary economic impact of this sector in Washington State that is associated with rail activity is in the transportation and wholesale trade sectors that support the port/international trade sector. A more complete description of the port and trade system is found in Section 2.5 and a more complete description of the merchandise trade and retail sector as it relates to rail activity in Washington State is found in Appendix A.1.

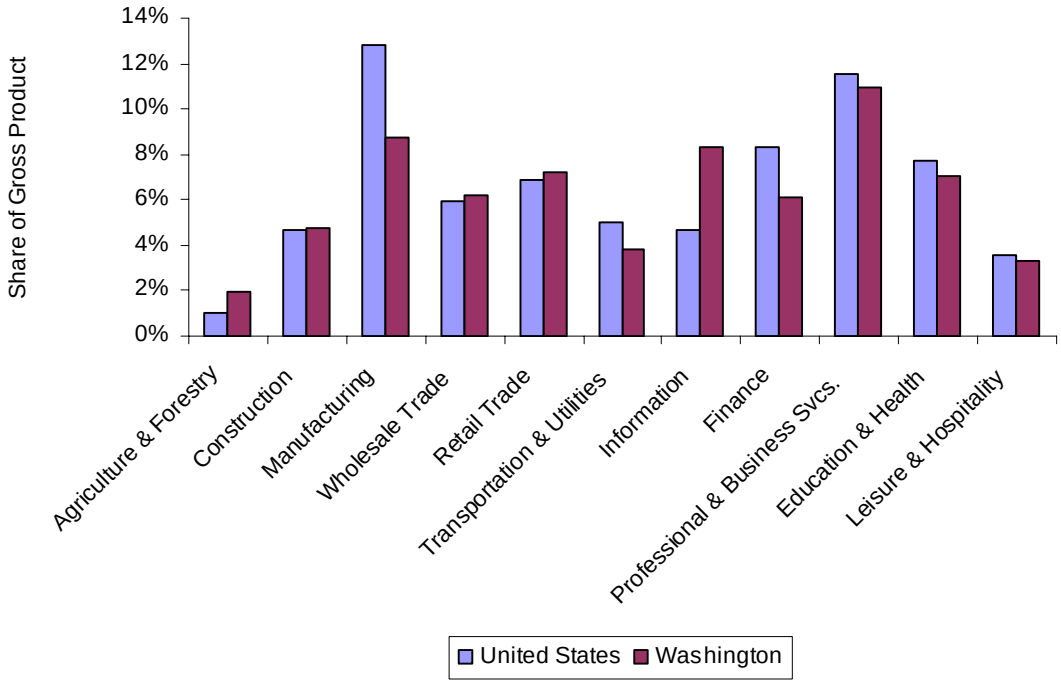
(made at last paragraph on page 2-35, and continuing to page 2-36, Table 2.6; last paragraph on page 2-36; and page 2-37, Table 2.7): In 2004, Washington State's GSP totaled $262 billion and generated 2.8 million jobs.[2] The three freight-rail intensive industries, including manufacturing and industrial products, agriculture and food products, and lumber and wood products but excluding merchandise trade and retail industries, accounted for about 14 percent of the State's GSP and 15 percent of the jobs.[3] Figure 2.16 shows the contribution of all major sectors to Washington State's GSP as compared to the national industries to the United States economy. Table 2.6 provides a breakout of the three freight-rail

[2] Economic and employment data from the U.S. Bureau of Economic Analysis.

[3] Much of the State's output in merchandise and retail trade is associated with local consumer products sales through retail outlets. Movement of consumer products to local retailers, when it is import-based and coming through the ports, generally moves by truck rather than rail.. However, good rail access to the ports ensures that the ports remain economically competitive and, thus, receive good service from ocean carriers and regional consumer goods distribution facilities. This benefits the local merchandise trade and retail sector.

intensive industries' contributions to the Washington State's GSP in 1997 and 2004.

Figure 2.16 Washington State's Economic Structure Compared to the Nation's State Has Particular Concentrations in Information, Agriculture and Forestry, and Trade



Source: Bureau of Economic Analysis.

Table 2.6 Contribution to Washington State GSP of Freight-Rail Intensive Industries (in Billion Dollars)

Gross State Product by Industry	1997	2004
Manufacturing	$19.5	$23.0
Agriculture and Food	$7.2	$7.4
Lumber and Wood Products	$5.4	$6.5
Total	**$32.1**	**$36.9**
Total as a Percentage of Washington State GSP	**18.0%**	**14.1%**

Sources: Bureau of Economic Analysis and U.S. Census Bureau.

Note: The merchandise trade and retail industries are not shown. Movement of consumer products to local retailers, when it is import-based and coming through the ports, generally moves by truck rather than rail. However, good rail access to the ports ensures that the ports remain economically competitive.

Between 1995 and 2005, the agriculture and food products industry added 8,000 jobs while both the manufacturing and the lumber and wood products industries shed jobs. Table 2.7 shows employment by industry in 1995 and 2005.

Table 2.7 Contribution to Washington State Employment of Freight-Rail Intensive Industries

Employment by Industry	1995	2005
Manufacturing	**311,300**	**272,000**
Agriculture and Food	**111,598**	**119,981**
Lumber and Wood Products	**45,400**	**37,700**
Total	**468,298**	**429,681**
Total as a Percentage of Washington State Jobs	**19.9%**	**15.5%**

Sources: Bureau of Labor Statistics, Bureau of Economic Analysis.

Note: The merchandise trade and retail industries are not shown. Movement of consumer products to local retailers, when it is import-based and coming through the ports, generally moves by truck rather than rail. However, good rail access to the ports ensures that the ports remain economically competitive.

Comment 13. Page 2-37, Table 2.7: Where do ports and related businesses fit into this chart?

Response 13. No data source is readily available to address this.

Comment 14. Page 2-38, last paragraph: Explain grain supply chain from mid-west: rail growth. Explain shift from carload to unit train: impact on agriculture.

Response 14. Global Insight is preparing information, but not in time for this addendum.

Comment 15. Page 2-39, 2nd paragraph: Note increase in mills built in last 5 years, check against these numbers.

Response 15. Insufficient time was available to address this comment.

Comment 16. Page 2-39, 2nd paragraph: Timber is declining for a bunch of reasons – protection of old growth, fewer trees, and Canadian competition. Might be best to just say it is declining without attributing a reason.

Response 16. Edits underlined: The lumber and wood products industry has experienced a 2.3 percent annual decrease in sales from 2000 to 2005. Sales are forecast to continue falling at a 3.6 percent compound annual growth rate from 2005 to 2010 and at 1.2 percent until 2025. Employment has fallen further than sales figures, and the outlook for jobs in this industry is for a faster decline. Employment decreased at 5.6 percent annually from 2000 to 2005 and is expected to drop at 3.9 percent annually, averaging a drop of 1.7 percent annually between

2005 and 2025. While sales in logging and lumber have been falling, sales in secondary forest products (i.e., doors, windows, and furniture) have shown improvement with moderate growth and employment gains.

Comment 17. Page 2-44, last paragraph: (According to the Washington Public Ports Association, one in three jobs in Washington State depends on trade.) But…..explain facts!

Response 17. Sentence deleted.

Comment 18. Page 2-45, 1st full paragraph continuing to page 2-46: Replace "Problems with inadequate siding spacings…" with "Inadequate siding spacings…." (…due to growth in international intermodal cargo) Clarify, what are you trying to say?

Response 18. Edits underlined: There are serious capacity constraints and local access chokepoints in the international trade system that affect both container and bulk cargo movements. These are described in more detail in the discussion of rail bottlenecks in the appendix sections on Merchandise Trade and Retail, and Agricultural and Food Products sectors, respectively. With respect to container trade, both the Port of Seattle and the Port of Tacoma believe that through a combination of building out current facilities and improving productivity, their marine terminals could process more cargo than current forecasts suggest will be moving through these Ports over the next 20 years. In the case of Seattle, there are serious capacity issues at the rail intermodal facilities that represent constraints to future growth. The UPRR's Argo Yard is currently operating at capacity and the railroad has indicated that it may be forced to drop domestic intermodal service (A significant fraction of this cargo is actually international traffic that has been transloaded from international containers to domestic containers.). BNSF's SIG yard has access problems and is nearing capacity (although BNSF does have plans to expand capacity through new technology). The Port of Seattle's T-18 on-dock terminal is not efficient as an intermodal terminal, and the space is being used for container storage. The Port of Seattle also has several bottlenecks associated with accessing the mainlines from the terminals. The Port of Tacoma is in a better position because it has land with which to expand on-dock intermodal capacity and has plans to do that. There are some configuration issues that create capacity constraints as well as access problems. While there are a number of plans underway to address some of these access and terminal problems, a more serious concern is lack of east-west mainline capacity, particularly that which is cleared for double-stack operations. Inadequate siding spacings along the Stevens Pass line have limited capacity and this is pushing more traffic into the Columbia River Gorge (which also suffers from inadequate siding spacing problems). This will be a dominant issue in the Washington State freight-rail system in the future because the fastest growing segment of rail traffic is international intermodal cargo. With the number of car units and trains generated by this cargo, this segment of traffic will consume most of the available capacity in the system and will create shortages that need to be addressed. If the improvements identified in the long-range passenger rail plan are not

completed in the forecast horizon, it is likely that volume capacity in the north-south corridor will be constrained due to growth in international intermodal cargo. Predicting the exact requirement for capacity in each corridor is complicated by the relationship between north-south movements and east-west capacity and the operating plans of the BNSF.

Comment 19. Page 2-47, 1st and 2nd full paragraphs: Replace "may" with "will." Add "to handle growth." Replace "2" with "two."

Response 19. Edits underlined: The WPPA Rail Capacity Study[4] indicates that the most serious mainline capacity issues facing the international trade rail system are the constraints on the east-west lines. In particular, constraints on the BNSF line over Stevens Pass are pushing more traffic onto the north-south corridor and the Columbia River Gorge and creating conflicts with other traffic on these lines. Terminal capacity issues at the Port of Seattle are a concern and, while there are several projects underway to address these issues, more will need to be done to handle growth. Local access and egress problems at all of the ports described in this chapter will also need to be addressed. The biggest issues in the north-south corridor with impacts on mainline capacity include the single-track section through the Nelson Bennett Tunnel under Pt. Defiance and problems with local operations that spillover onto the mainline at Longview/Kalama and yard issues moving through Vancouver, Washington State.

The BNSF is one of the four largest U.S. railroads (along with CSX Transportation, Norfolk Southern, and UPRR). It operates in 28 states and two Canadian provinces; has 32,000 route miles systemwide (1,621 in Washington State); and employs 40,000 people systemwide (3,125 in Washington State). The railroad has total assets of $30.304 billion, and annual revenues of $12.987 billion systemwide ($752 million in Washington State). The BNSF dominates many markets in Washington State and the Pacific Northwest; its business strategy emphasizes intermodal traffic.

Comment 20. Page 2-51, Table 2.8: For Palouse River & Coulee City RR (PCC), break out the freight volumes into four branch lines.

Response 20. WSDOT was contacted for this information.

Comment 21. Page 2-51, Table 2.8: For Puget Sound & Pacific RR (PSAP), annual average traffic of around 14,000 carloads in what years?

Response 21. The year is 2001. The source is the "The Little Rail Lines That Could"; Steve Wilhelm, Puget Sound Business Journal, August 23, 2002.

Comment 22. Page 2-56, 2nd full paragraph: Are there seven or four national Class I railroads?

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[4] *WPPA Rail Capacity Study*, MainLine Management and HDR Engineering, 2004.

Response 22. There are seven national Class I railroads by the STB definition of Class I.

Comment 23. Page 2-56, last paragraph continuing to page 2-57: Note that CP (CN, too?) lacks visibility therefore UP-CP moves go into black hole for a time. Define numbers (for shipment visibility). (For delivery-time reliability), give data on-time performance for years 1990, 1995, 2000, 2005 to support this assertion.

Response 23. No data source is readily available to address these items. For the second and third points, this is our understanding of the general trends.

Comment 24. Page 2-61, 1st paragraph: It helps me explain what the railroads are doing by referencing the BNSF mantra: "increase velocity." This slide contains the concept, but the word itself is helpful.

Response 24. Original submittal of the Interim Report used that expression: Finally, underpinning all three strategies is a continuing effort by the railroads to increase velocity – to increase the volume and speed of freight that can be moved through the rail system. Actions include developing process improvements to increase effective capacity; applying new technology such as computerized train control to improve operations; buying new locomotives; adding more train crews; buying more cars; and building new infrastructure (e.g., yards, sidings, and track).

Comment 25. Page 2-61, 4th paragraph: Somewhere in here it seems we should note that shortlines are the source of something like 20 percent of the Class 1 traffic – it will remind policy makers that Class 1s have a stake in the success of shortlines and should perhaps be brought to the table instead of sitting on the sidelines waiting for states to solve a Class 1 problem.

Response 25. Original submittal of the Interim Report provided this reference: Beyond volume, short lines face three specific problems as an industry: 1) they face high costs to upgrade track and bridges to carry the newer, heavier, higher-capacity, 286,000-pound cars preferred by shippers and Class I railroads; 2) railcar availability, which is partially controlled by the Class I railroads, is a continuing problem; and 3) the Class I railroads set prices and access conditions. While short line traffic generates significant amounts of revenue for the Class I railroads (16 percent for BNSF, for example), the Class I railroads may or may not provide joint rates, depending on whether the Class I railroads want the traffic.

Comment 26. Page 2-62, 4th full paragraph: Restate (Sounder ridership) in terms of number of passengers/day.

Response 26. Edits underlined: Commuter rail serves commuters to and from work almost exclusively, although Sounder does run some special event trains. These are users for whom travel time, reliability, and cost are major choice factors. Sounder ridership in 2005 is up to almost 1.27 million, or more than 4,500 passengers per weekday. Additional trains have been added over the last 4 years, and each train addition has created a big bump in ridership, indicating that the market has not yet been saturated.

Comments 27 and 28. Page 2-66, last paragraph continuing to page 2-67: (Farebox recovery for Amtrak Cascades) is bouncing around.

(…to support operations almost entirely on fares). So? If goal is 100 percent, how does 47 percent rate? How will this happen? Explain the plan.

Responses 27 and 28. Edits underlined: From 2001 to 2005, farebox recovery has increased by 13.6 percent although the percentage fluctuates from year to year. Using data from FY 2001, only 3 of the 18 state-supported Amtrak services throughout the country had farebox recovery of over 50 percent, so the trend for Amtrak Cascades puts it among the national leaders. The goal for the system is to be able to support operations almost entirely on fares, which is intended to occur by implementing long-range improvements described to follow under *"What Are the Plans to Serve Future Passenger Demand?."*

Comment 29. Page 2-67, 2nd full paragraph. (On-time performance of commuter trains should not be compared with performance of intercity trains, since the latter are traveling over longer distances and in longer operating windows, yet the criteria for what is considered on-time is not that different.) Why not compare percent of OT Amtrak ST between same pts? Or use ST as benchmark to drill down into Amtrak performance.

Response 29. Sentence deleted.

Comment 30. Page 2-67, last paragraph, 1st bullet. #/day (for Amtrak Cascades ridership)?

Response 30. The ridership forecast provides an annual figure only, with no average weekday/weekend breakdown. Dividing by 365 would oversimplify. Source: *Draft Short Range Plan for Amtrak Cascades*, pages 4-4 to 4-5; WSDOT, February 2006.

Comment 31. Page 2-67, last paragraph, 2nd bullet. Why (is Amtrak Cascades ridership projected to increase by 0.5 percent annually with no further service changes)?

Response 31. This is simply an assumption made. Source: *Draft Short Range Plan for Amtrak Cascades*, pages 4-4 to 4-5; WSDOT, February 2006.

Comment 32. Page 2-68, 1st full paragraph. (The long-range ridership forecast for Amtrak Cascades) assumes infinite demand. Explain demand prediction basis.

Response 32. Edits underlined: The long-range ridership forecast, which assumes the implementation of substantial improvements to Amtrak Cascades services above and beyond the funded short-range improvements, could increase ridership along the corridor to nearly 3 million annually in 2023.[5] The model used to develop the long-range ridership forecast is an adaptation of a

[5] Source: *Draft Long-Range Plan for Amtrak Cascades*, page xi, WSDOT, February 2006.

spreadsheet model that has been used for many Amtrak and intercity rail applications in states that include California, Georgia, North Carolina, and Virginia.[6] The forecasting approach is based on a two-stage process:

- The first stage involves forecasting the total number of trips for all modes for each origin-destination pair of interest (i.e., Seattle – Portland);
- The second stage predicts the market share of each mode for that origin-destination pair. The modes used for the Amtrak Cascades forecast are rail, automobile, and air.

The travel time, travel cost, and service frequency elasticity factors for the model were calibrated based on market research and data pertaining to service characteristics, highway networks, and socioeconomic variables. Additional information provided on specific model parameters is limited to sample base travel characteristics for the three modes between Seattle and Portland. Assessing the validity of the long-range ridership forecasts would require an in-depth review of the passenger rail model (i.e., data sources used, elasticity factors, cost elements).

These ridership levels require that service frequencies, on-time performance, and Seattle to Portland travel times are all improved relative to current performance. The improvements are designed to ensure that even with forecast growth in freight traffic, capacity in the corridor will be sufficient and operational bottlenecks that affect passenger rail services are eliminated, at least with respect to passenger operations. The degree to which these improvements are also able to provide benefits to the freight railroads will depend to some extent on their operating practices with the infrastructure improvements and their ability to resolve capacity issues and bottlenecks in the east–west corridors.

Comment 33. Page 2-69, under "What Are the Plans to Serve Future Passenger Demand?. Add "planned." Add "state plan includes." Delete "are the following":

Response 33. Edits underlined: The following are planned short-range improvements for Amtrak Cascades services:

- Additional improvements through the year 2015 include additional main line tracks, siding upgrades, junction improvements, high-speed crossovers, and new storage tracks. Funding for these projects have been mostly secured, although in some cases the project cost estimates are conceptual and could change over time.
- An optional short-range project involves the completion of a British Columbia supported infrastructure project at Colbrook that would allow for the number of daily trains in each direction between Seattle and Vancouver, British Columbia to increase from one to two.

[6] Source: *Amtrak Cascades Ridership and Revenue Forecasts Technical Report*, pages 5-1 to 5-3, WSDOT, June 2004.

The state plan also includes long-range improvements for Amtrak Cascades services:

- Increase the number of trains in each direction between Seattle and Portland from 4 trains per day to 13 trains per day. Increase the number of trains in each direction between Seattle and Vancouver, British Columbia from one train per day to four trains per day.
- Reduce the one-way travel time between Seattle and Portland from 3.5 hours to 2.5 hours, reduce the one-way travel time between Seattle and Vancouver, British Columbia from 3.9 hours to 2.6 hours.

Comment 34. Page 2-70, 1st full paragraph. (…fairly expensive long-term investment program) What are you trying to say?

Response 34. Edits underlined: **Cost to Reach Critical Performance/Ridership Levels on the Intercity Service Is Substantial and the Nature of Benefits Is Complex.** Ever since the Washington State rail program was initiated, it has been planned under the assumption that certain performance levels had to be achieved to attract and retain ridership. The operations of the freight railroads (more specifically the BNSF) are taken as a given in evaluating operational performance of the passenger services. This means that if bottlenecks exist in the passenger corridor as a result of increased traffic and a particular mode of operations, these bottlenecks must be eliminated in order to maintain service levels. Though several major bottlenecks in the freight system have been identified (such as Stevens pass and Stampede pass), it is not clear when (or how) these capital-intensive improvements may be achieved. This uncertainty regarding BNSF operations means that some assumptions will have to be made in planning the passenger service. The objective of passenger investment should be to achieve a high level of performance and to ensure no change in freight-rail utility. This generally results in a very expensive long-term investment program that includes such items as the improvements to the mountain passes. The WSDOT passenger rail program evaluates the costs and benefits of this program by considering the direct benefits of the passenger rail program to the State and passengers, including cross-modal impacts (e.g., reduction of highway congestion). However, it does not attempt to calculate freight-rail benefits. It also does not directly address how to compare the benefits and costs of passenger rail investments with non-rail alternatives – especially to the degree that these alternative modal projects may include embedded subsidies for initial capital investment. Each of these issues suggests some of the complexity of evaluating costs and benefits of passenger rail projects in joint operations corridors. The approach will likely need to be expanded and further refined as part of a policy framework that is meant to consider all public and private costs and benefits and their allocation.

Comments to Chapter 3.0 Findings and Conclusions

Comment 35. Pages 3-1, first two paragraphs and 3-2, 2nd paragraph: Add "mainline." Replace "may" with "will." Replace "attempting to change" with "changing." Replace "trying to emphasize" with "emphasizing."

Response 35. Edits underlined: **The Washington State mainline rail network is at or near capacity now; service quality is strained and rates are going up.** The study evaluated current train volumes on all main lines and compared these volumes with practical capacity (capacity at which trains on the system are all moving without incurring significant delay or experiencing significant operational problems). This analysis shows that capacity is most severely constrained in the east-west corridors and north of Seattle. The line from Everett to Wenatchee over Stevens Pass is already congested, and lines from Wenatchee to Spokane, Vancouver to Wishram, and Pasco to Lind are all severely constrained. The line over Stampede Pass, while not congested today, is severely limited as a reliever route because the Stampede Tunnel lacks clearance for double-stack trains. Future growth, most notably in intermodal volumes through the ports, will worsen this situation even with the operational changes that the Class I railroads are making to try to increase velocity without major infrastructure investment. Additional analysis shows that, while the north-south line between Seattle and Vancouver, WA is not capacity constrained on the mainline, there are numerous bottlenecks, many related to terminal capacity shortages and port access, that affect operations in this corridor today. This is likely to worsen as capacity constraints over Stevens Pass force more intermodal traffic south to the Columbia River Gorge.

Freight demand for use of the Washington State rail system is growing, but much of this growth is driven by shippers and receivers outside of the State. Today the largest volume of traffic by tonnage moving on the rail system in Washington State is agricultural products moving inbound. This is mostly grain exports coming from the interior U.S., and it is increasingly moving on large unit trains. Volumes of these products are expected to continue growing and needing capacity on the Columbia River Gorge lines. Intermodal cargo represents the second largest category of cargo by tonnage and the largest in terms of number of rail cars. This is projected to be the fastest growing component of Washington State freight-rail demand. Most intermodal cargo is moving from the ports into the interior U.S. Waste and scrap material is a fast growing cargo that is mostly local in nature. Despite the dominance of intermodal imports and agricultural exports in the future rail traffic picture for Washington State, there are local industries that will generate growth opportunities for the railroads. Transportation equipment and lumber and wood products are rail cargoes manufactured by local industries that also show growth potential. The problem with these cargoes is that these move in carload manifest trains and often come to the railroads in small volume per shipper in widely varying car types for widely varying origins and destinations. If the Class I railroads continue to prefer intermodal and bulk

unit train traffic to mixed carload, Washington State rail shippers will need to look to alternative rail transfer approach or risk further declines in service.

Class I railroads are changing their business model. The railroads are emphasizing long haul, hub-to-hub or point-to-point, service in high density corridors. This is the least operationally complex type of service, and it takes advantage of the low average cost of line-haul movements. The railroads are also attempting to change operational practices to get more throughput from existing infrastructure. This has meant practices such as building longer trains, standardizing equipment with fewer car options, trying to get customers on industrial leads and spurs to make site improvements, and supporting transload centers and consolidation facilities. In some instances, these operational changes are working to improve productivity but in other cases they are creating new operational challenges (for example, longer trains that cannot access terminals and end up blocking mainlines and crossings). Railroads are also using pricing as a demand management tool to encourage traffic that is easiest to serve and most profitable, and to discourage traffic that is difficult to serve and least profitable.

Comment 36. Page 3-4, 2nd full paragraph. Add "Low volume" (short line railroads…)

Response 36. Edits underlined: **Low volume short line railroads in Washington State will continue to have financial difficulties that will affect service quality and availability. The impacts of this situation, while not limited to agriculture, will have its most noticeable impacts in this sector.** Short line railroads in very low density corridors will continue to feel financial pressures. Some of this will be the result of changing business models of the Class I's and pricing impacts on the short lines. It will also be the result of competition from new product consolidation facilities that cannot be accessed by existing short lines, as well as the impacts of deferred maintenance on service quality (and the associated responses of shippers looking for better service). The primary economic impact will not always be on shippers (i.e., it may have primary impact on smaller product loaders and consolidators) and, therefore, should not be assumed a priori to negatively impact the competitiveness of the State's agricultural sector. However, the impacts of declining short line services will have implications for the public sector in terms of potential increases in highway maintenance costs, higher emissions, and lower fuel efficiency. In addressing this problem, the State will need to distinguish between services that can be successfully subsidized, and those that no longer effectively serve the shipper market in their respective communities.

■ Comments to Chapter 4.0 Building Policy Options

Comment 37. Page 4-1, 2nd paragraph. (Rail financing may best be handled by an independent agency such as the Freight Mobility Strategic Investment Board (FMSIB)) Explain why.

Response 37. This is a potential policy option that will be analyzed later in the study.

Comment 38. Page 4-4, after 1st bullet. Add "GMA statutes change to encourage aggregating ctrs."

Response 38. This is a potential policy option that will be analyzed later in the study.

Comment 39. Page 4-5, 2nd full paragraph. Replace "programs/policies" with "strategies."

Response 39. Edits underlined: The types of strategies that would support this policy objective could include:

- Continued and expanded state sponsorship of intercity passenger services.
- Focused investment to eliminate high-priority bottlenecks in shared freight/ passenger rail corridors. These investments should be made in partnership with the Class I railroads and a system of allocating costs between the public and private sectors that prices capacity improvements in relation to the value to each user should be developed.
- State purchase of new right-of-way or leasing of passenger-exclusive right-of-way within existing freight right-of-way to separate passenger and freight operations.
- Develop a rigorous analytical approach to evaluating all benefits of passenger rail investments, including an approach to evaluating freight-rail benefit that has buy in from the freight railroads.

■ Comments to Appendix: A Closer Look at Washington State Rail Users

Comment 40. Page A-6, 1st paragraph. (Pertaining to Washington State projected container port cargo volumes of 7.3 million TEU by 2025) The numbers in the first item have appeared elsewhere, but I thought the BNSF was projecting much larger numbers – 50 million on west coast, with perhaps 10 million at POT alone.

Response 40. No data source is readily available to address this.

Comment 41. Page A-47, last paragraph. "…cited as a success by the railroads." I would add the underlined part because I think there are lots of lumber shippers who don't agree. This raises the other question about service quality – shippers of all stripes are complaining about service and we acknowledge that in places. Should we address it directly – what can the state do about service quality? E.g., help improve velocity, capacity, ombudsman role for smaller shippers etc?

Response 41. Edits underlined: The issues and opportunities for the Lumber and Wood Products sector are similar to those of the manufacturing and

industrial products sector. As noted previously, the opportunities to expand and take advantage of new transloading facilities is perhaps greater than for the manufacturing sector as a whole and this has been cited as successful to date by the railroads. The management of car supply is a major issue and the state may have a role in assisting smaller shippers with the acquisition of car types that are in high supply and yet are not being provided by the railroads. Clearly investments in off-main line site improvements and support for the short lines that provide service to smaller captive shippers have particular importance to the Lumber and Wood Products sector.

Figure ES.1 Capacity Conditions of Major Washington State Rail Corridors, 2006

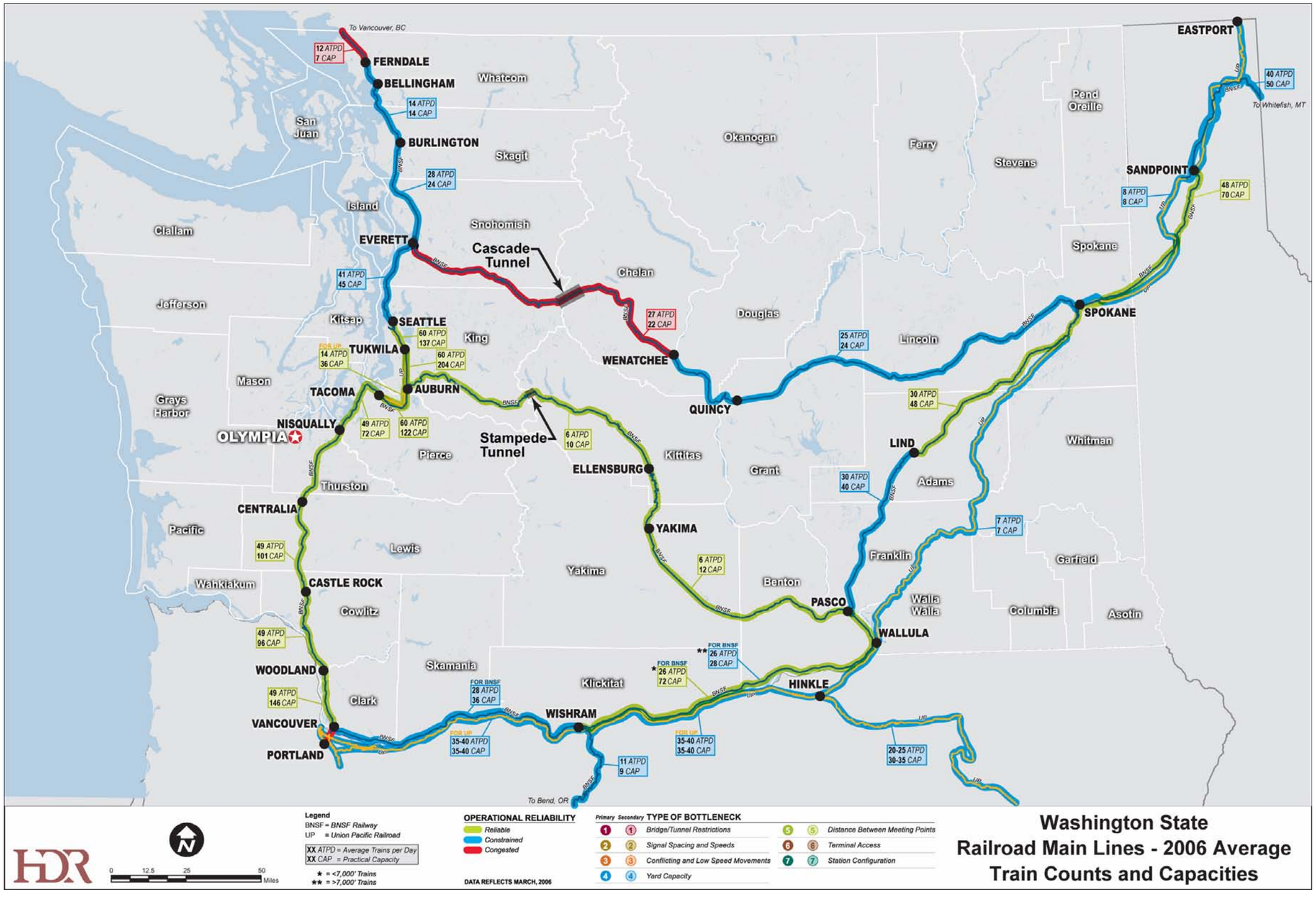

Figure ES.2 Major Bottlenecks in Washington State Rail Network

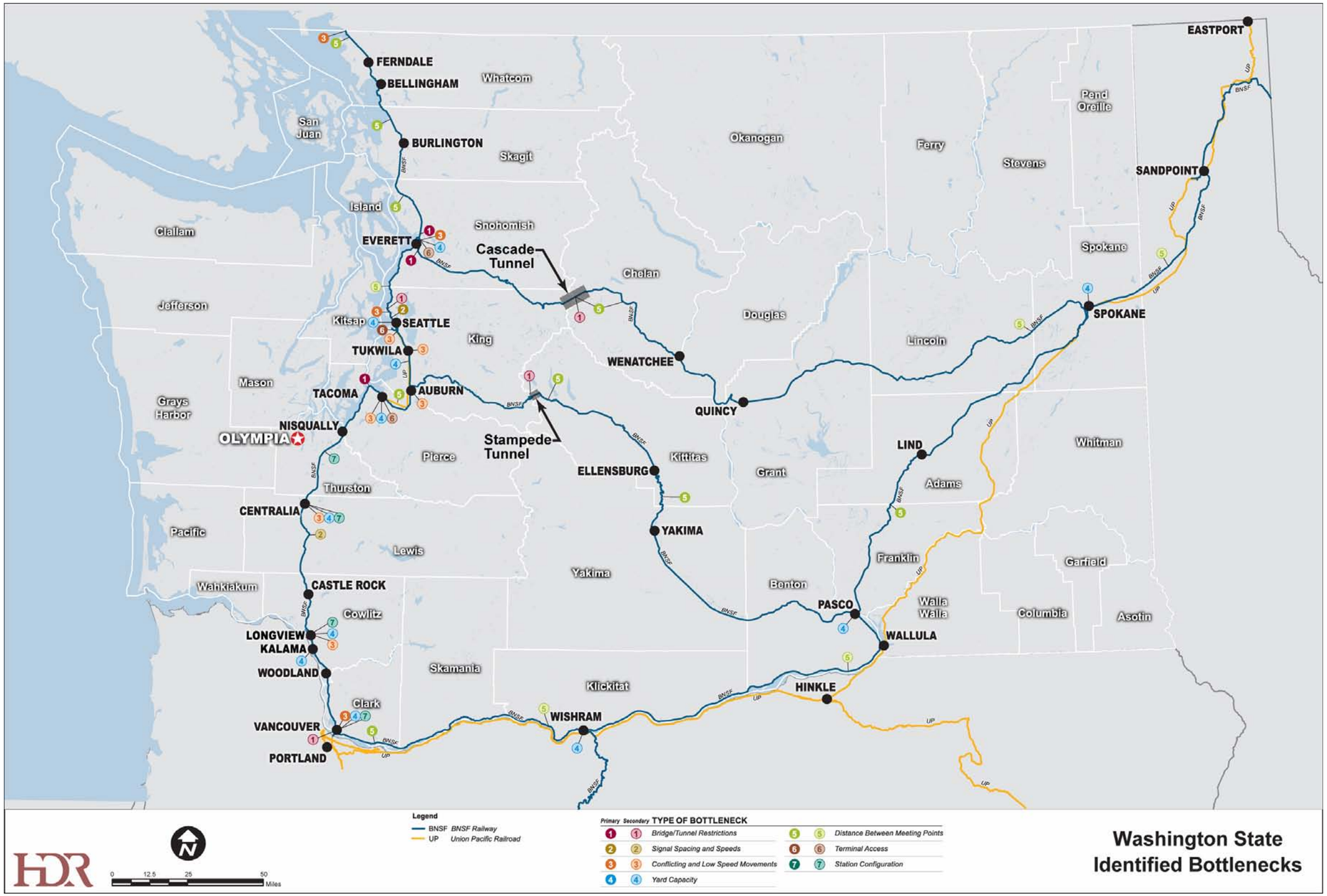

Figure 2.1 Washington State Rail Network

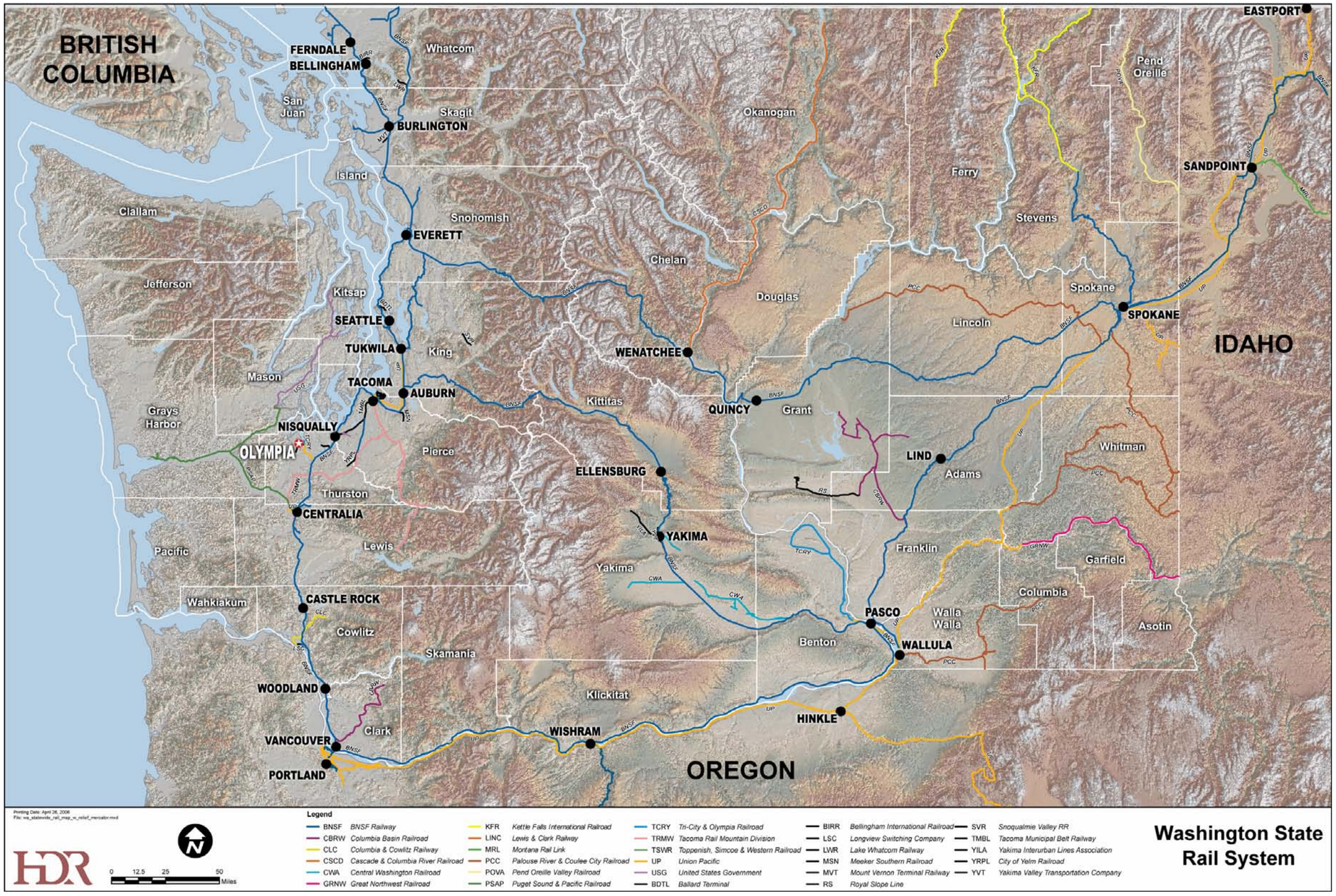

Figure 2.5 Capacity Conditions of Major Washington State Rail Corridors, 2006

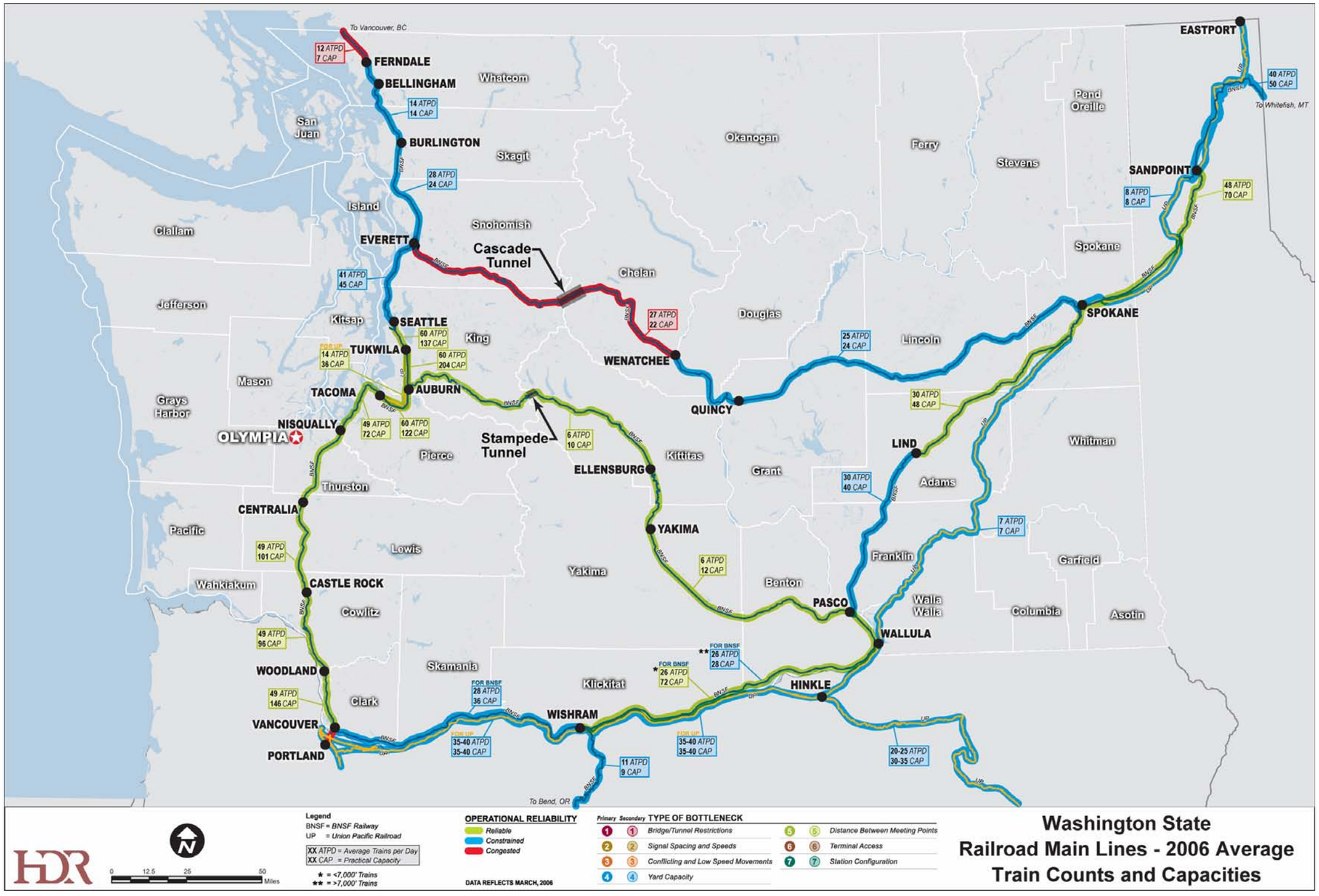

Figure 2.6 Major Bottlenecks in Washington State Rail Network

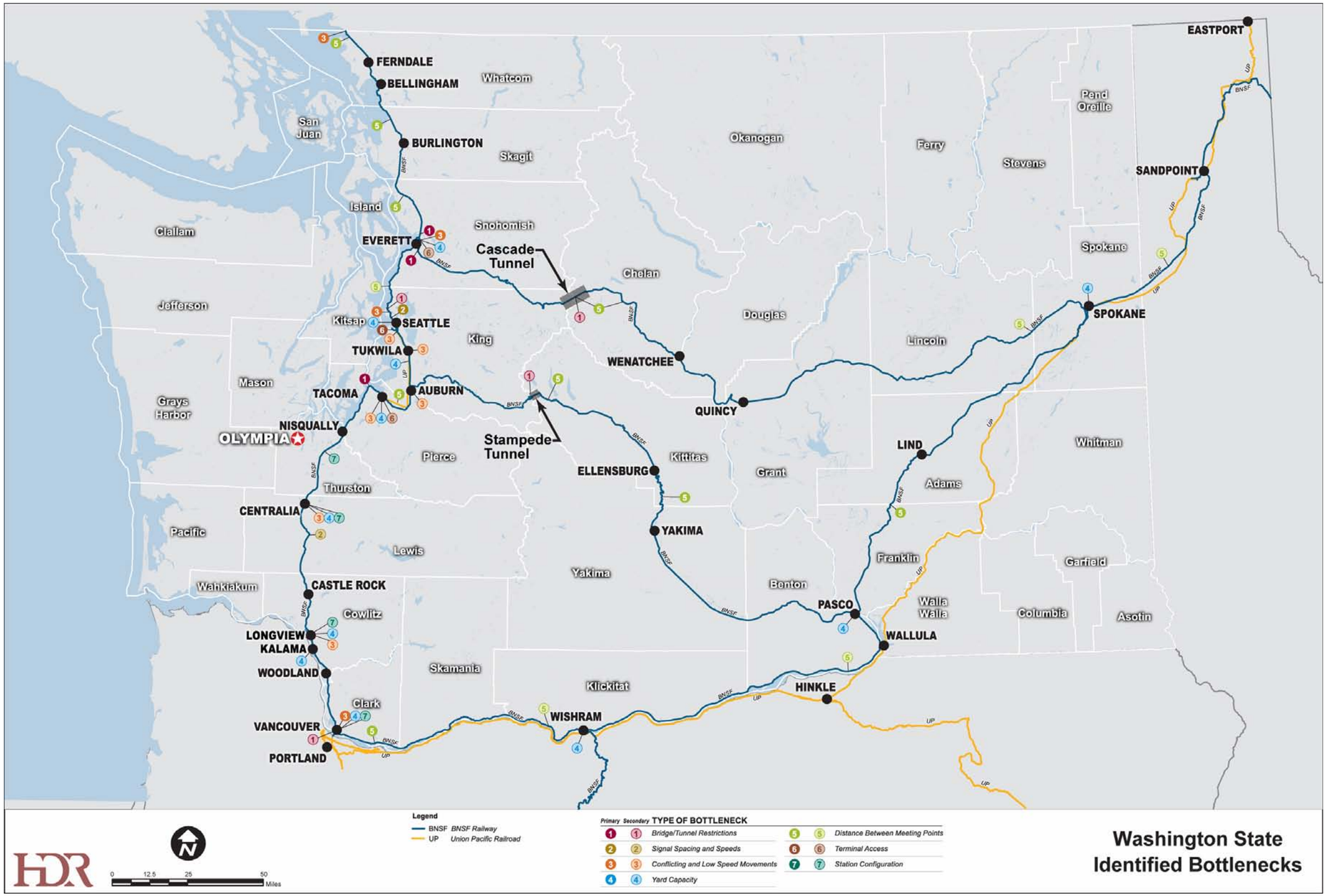

Figure A.1 Primary Routes and Bottlenecks for Merchandise Trade and Retail Sector

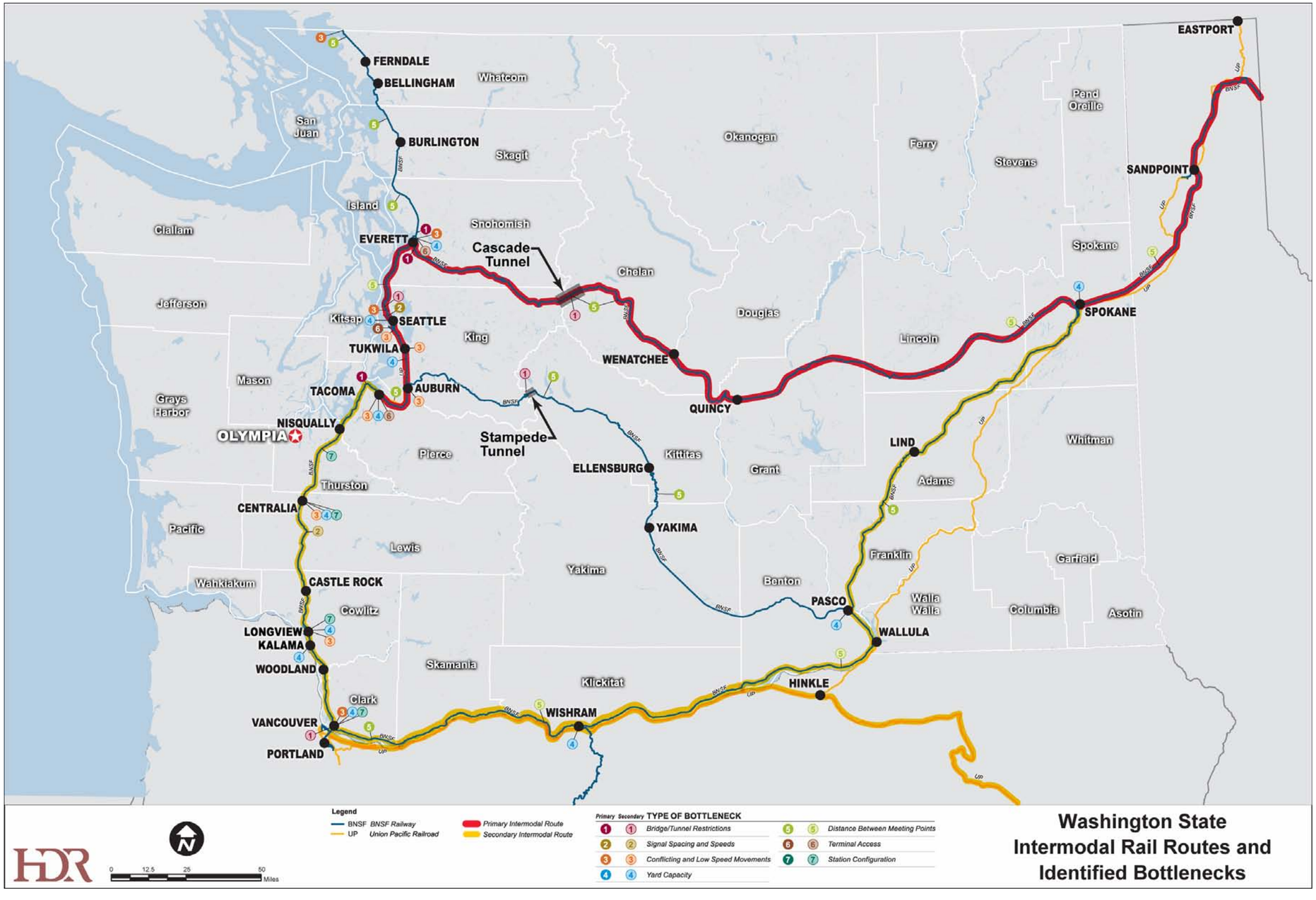

Figure A.3 Map of Major Main Line Routes Used for Agricultural and Food Product Shipments and Associated Bottlenecks

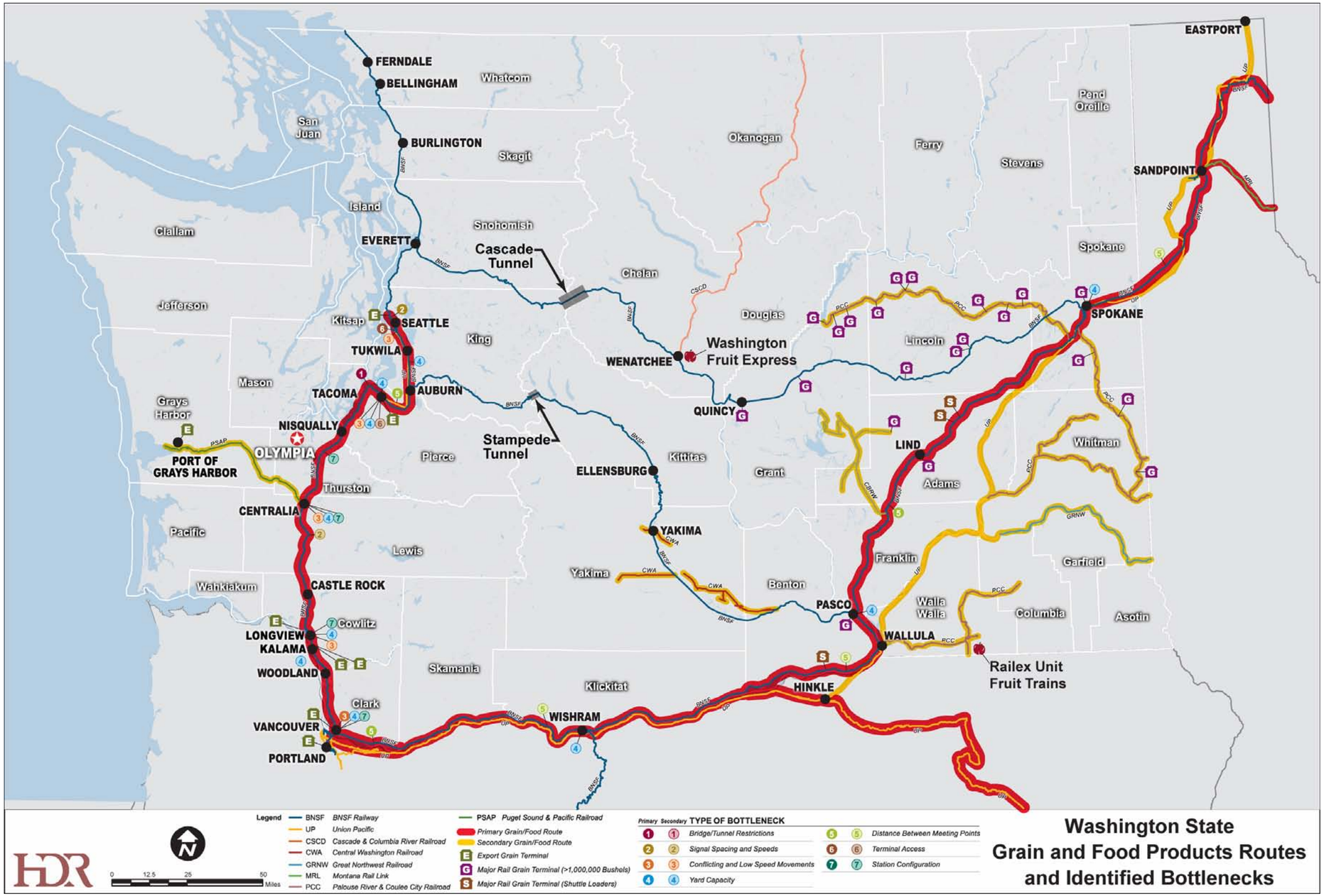

Figure A.6 Primary Routes and Bottlenecks for the Movement of Manufactured and Industrial Products